

NMME Update

- **High Frequency Data Online – and Growing**
- **Real-Time Activity**
 - Real-Time Verification
 - Additional Variables
 - New Models (GFDL-FLOR)
- **NMME Phase-I Data Sent to CHFP**
- **Sub-Seasonal Protocol Experiment Completed**
- **Model Updates: CCSM4; GFDL-FLOR**



Climate Prediction Center



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NMME

The U.S. National Multi-Model Ensemble

Welcome to the National Multi-Model Ensemble home!

Data and Current Forecasts

- 3-month mean spatial anomalies
- 1-month mean spatial anomalies
- Niño3.4 Plumes
- International MME
- Experimental: Probability forecasts

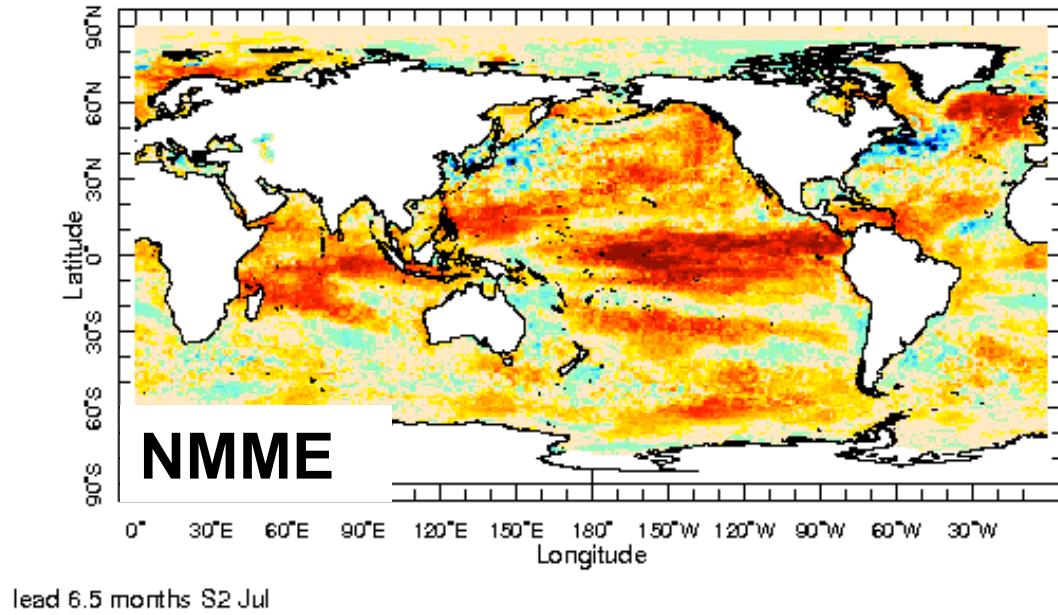
[NMME Realtime Forecasts Archive](#)
[NMME Phase-I Hindcast Data](#)

About the NMME

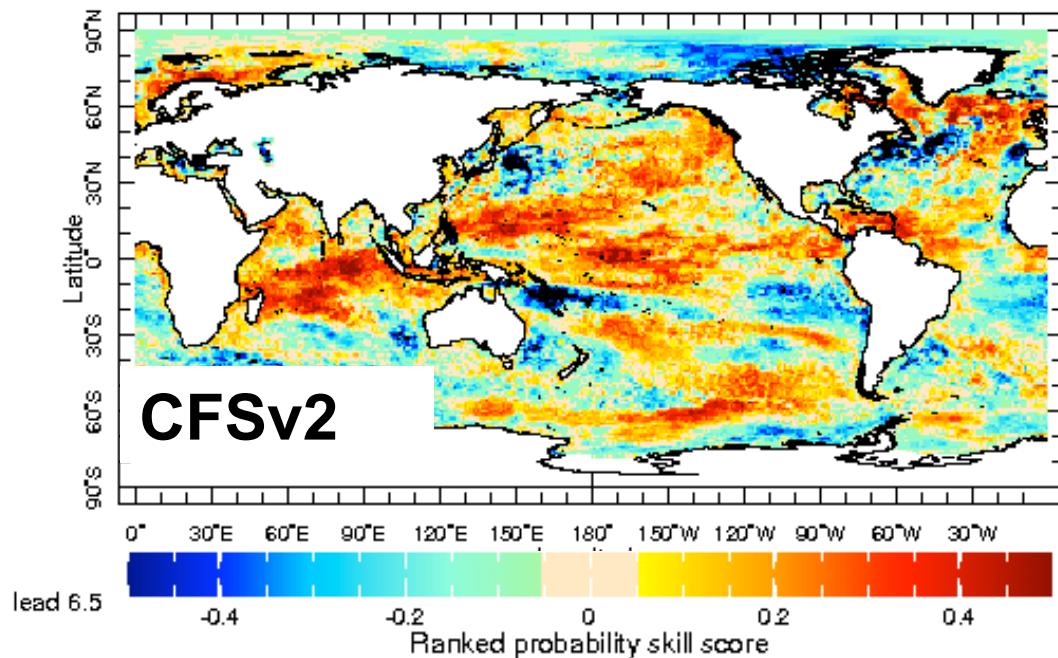
- Description of the NMME
- Phase-I Forecast Models
- CTB Activities & Documents
- [Join the NMME mailing list](#)

Comparison of CFSv2 skill vs NMME

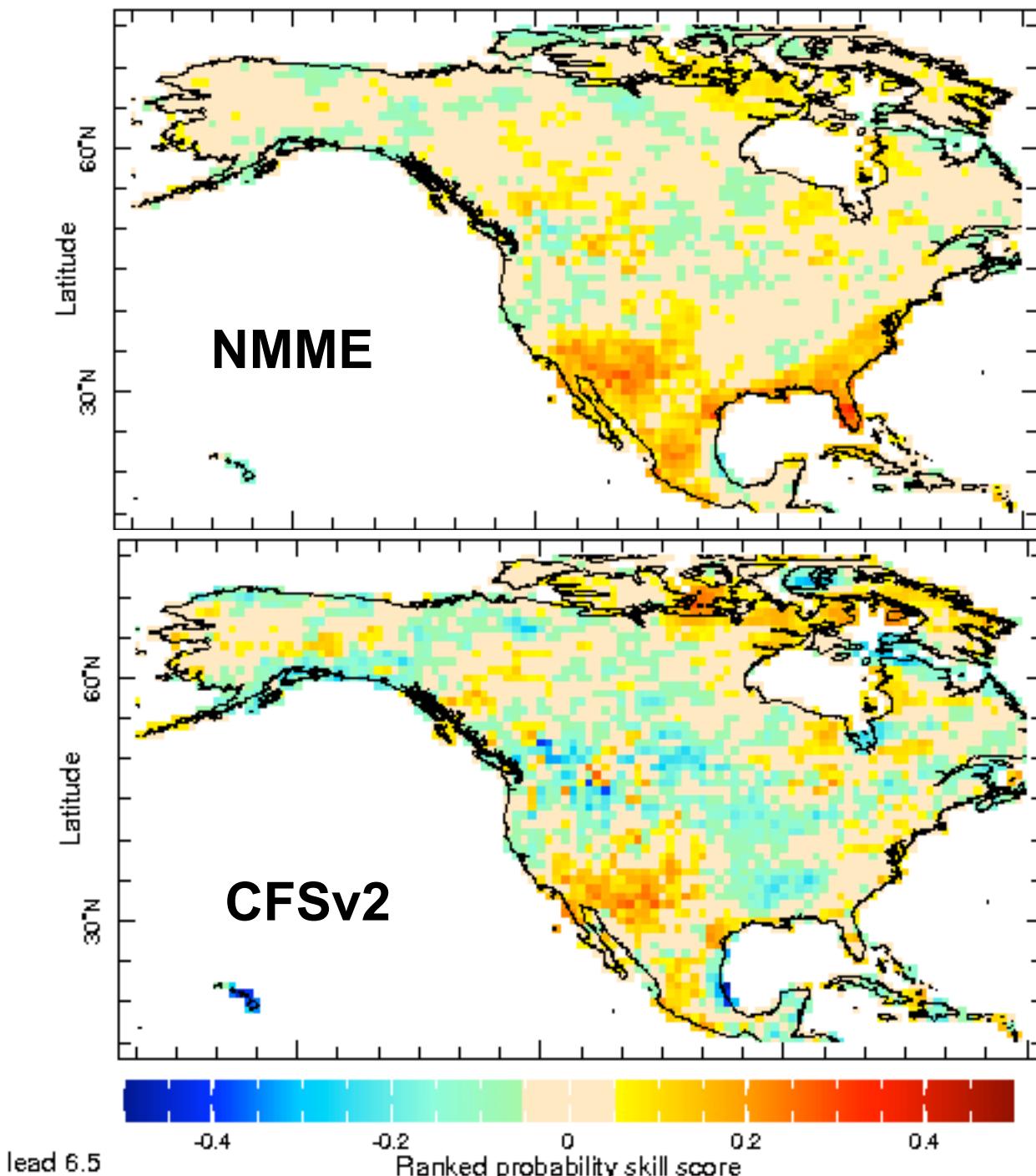
**July 1 start
DJF SST forecast
Ranked Probability
Skill Score**



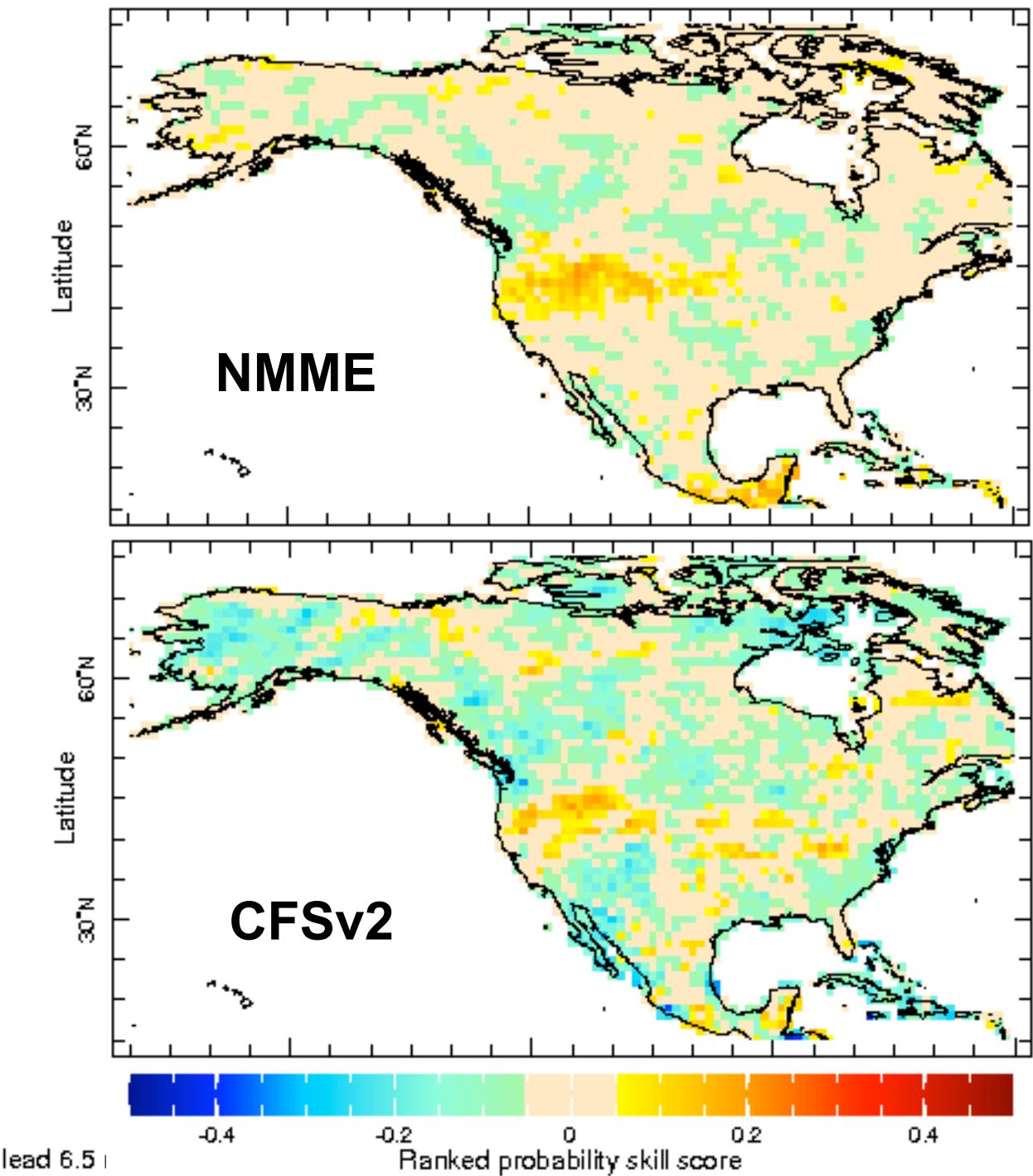
lead 6.5 months S2 Jul



**July 1 start
DJF prec
forecast
RPSS**

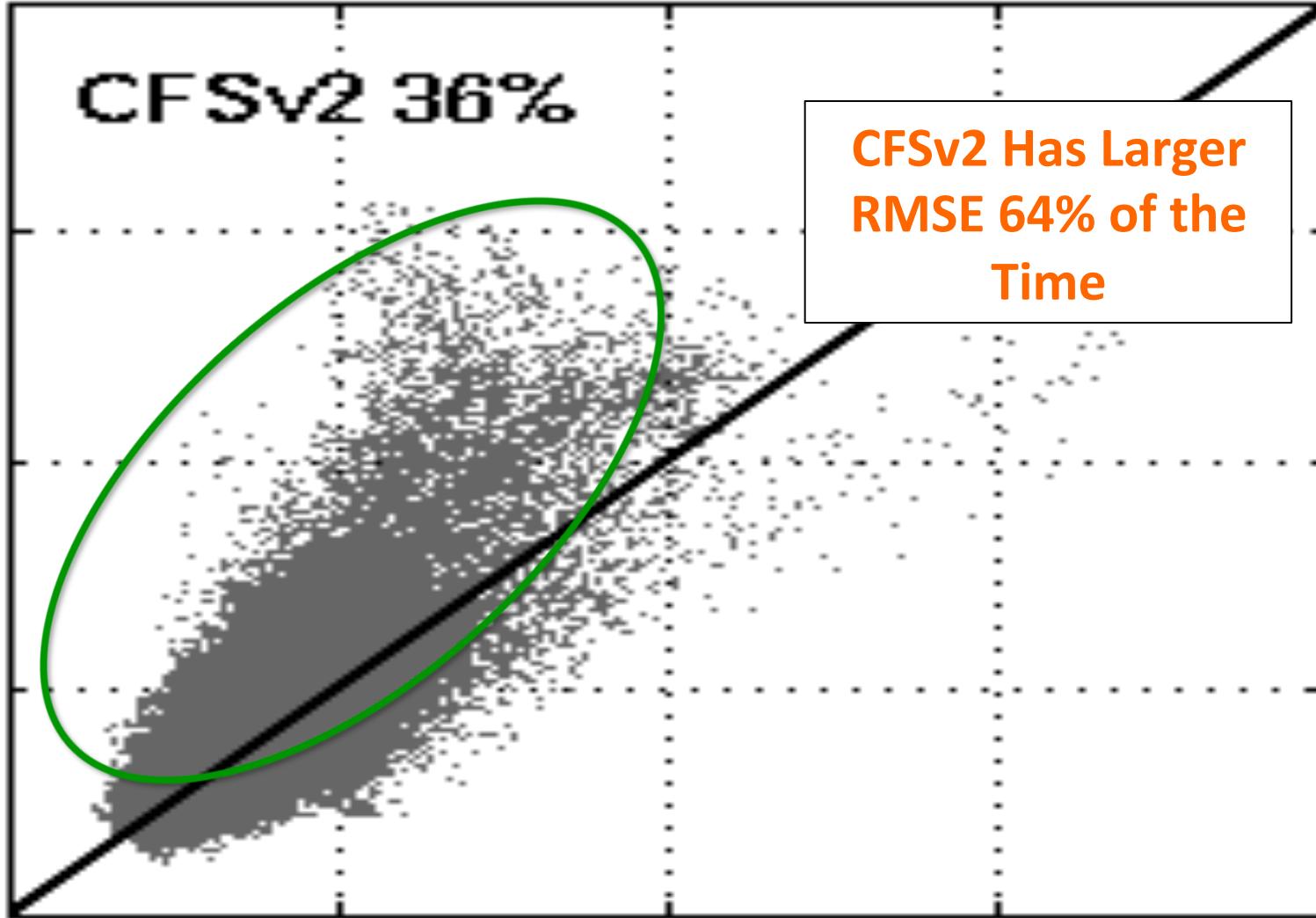


**Jan 1 start
JJA prec
forecast
RPSS**

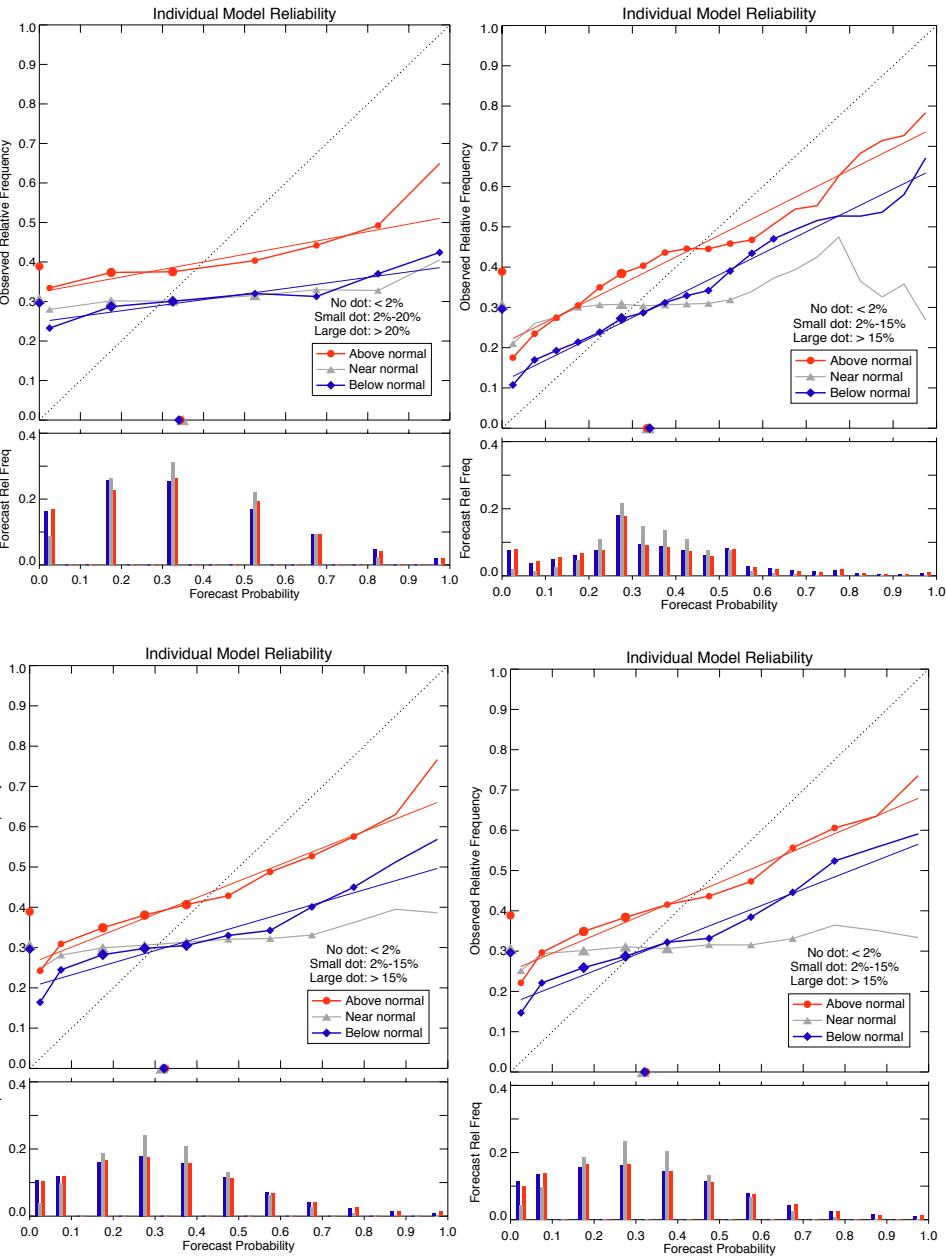
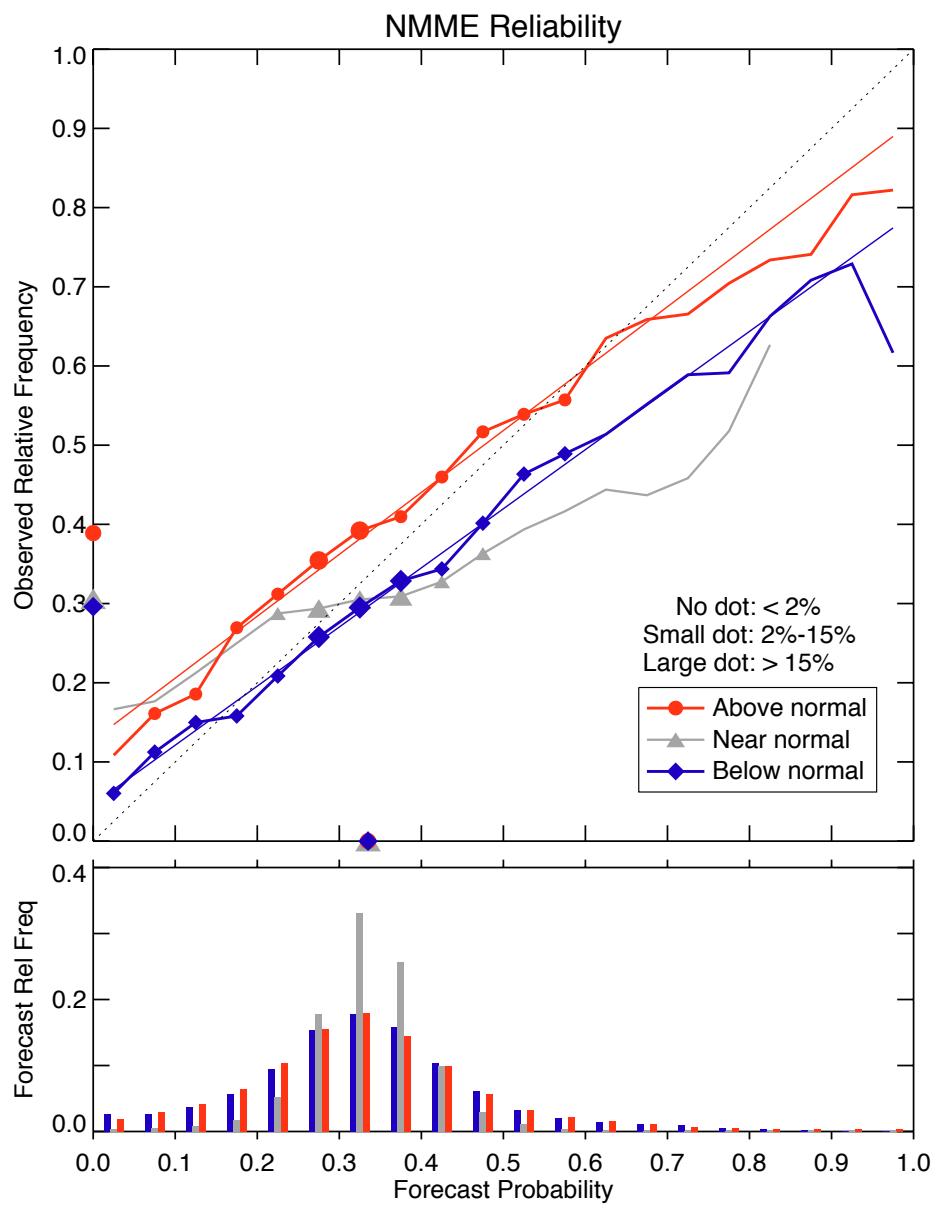


T2m RMSE: 20N-20S

Single Model



September Starts 0.5-5.5 Lead Times



T2m October Starts JFM Verification

Single-model

Multi-Model

2 from A

2 from A

2 from A

2 from B

2 from A

2 from C

2 from A

2 from D

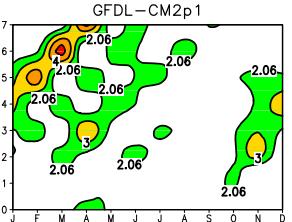
2 from A

2 from E

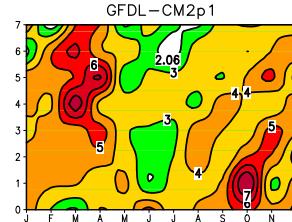
10 members

10 members

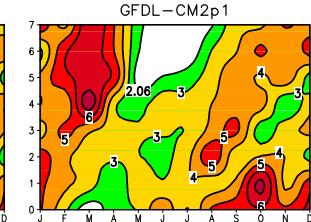
Single-model
2-members



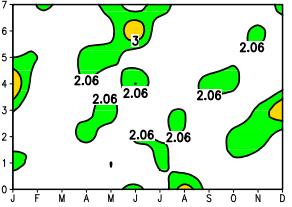
Multi-model
2-members



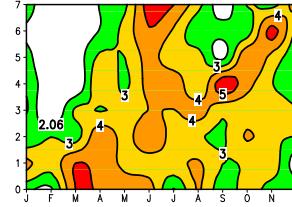
Multi-model
10-members



IRI-ECHAM4p5-DirectCoupled

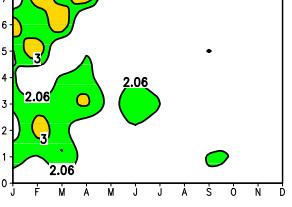


IRI-ECHAM4p5-DirectCoupled

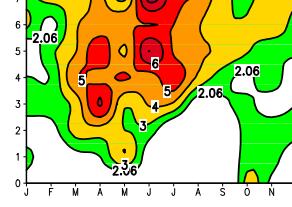


IRI-ECHAM4p5-DirectCoupled

CMC1-CanCM3

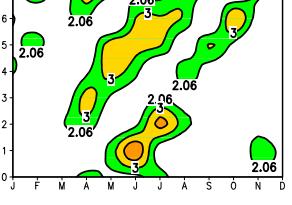


CMC1-CanCM3

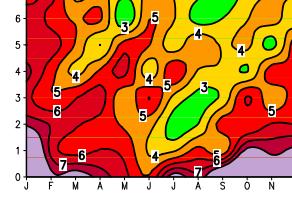


CMC1-CanCM3

NCEP-CFSv2

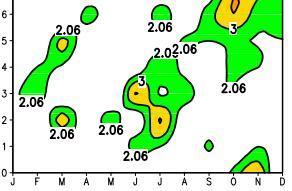


NCEP-CFSv2

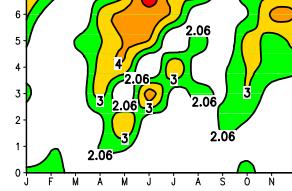


NCEP-CFSv2

NASA-GMAO-062012



NASA-GMAO-062012



NASA-GMAO-062012

Target Month

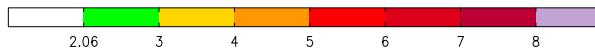
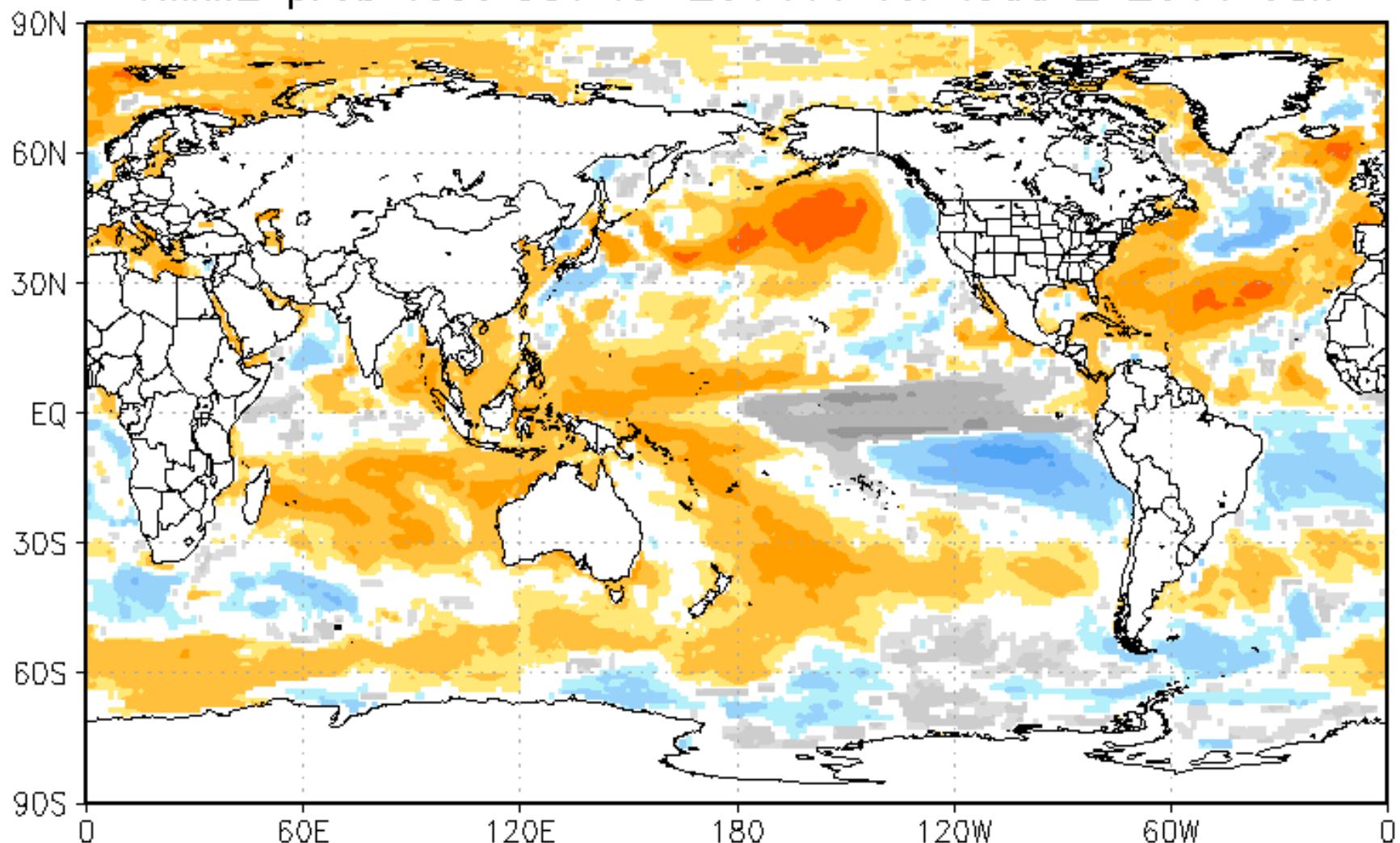


Figure Courtesy of T. Delsole

NMME prob fcst SST IC=201411 for lead 2 2014 Jan



Above

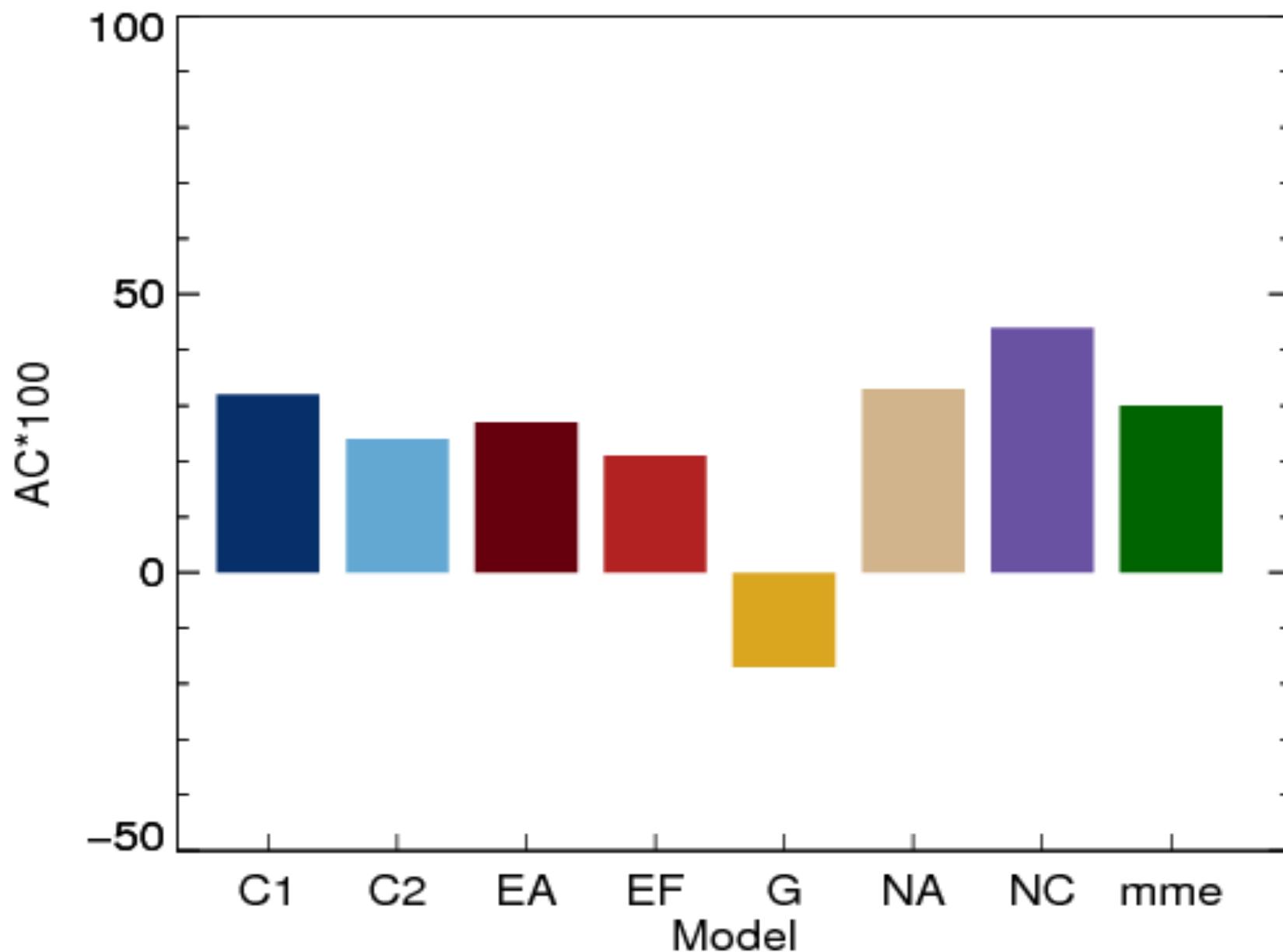


Below



Neutral

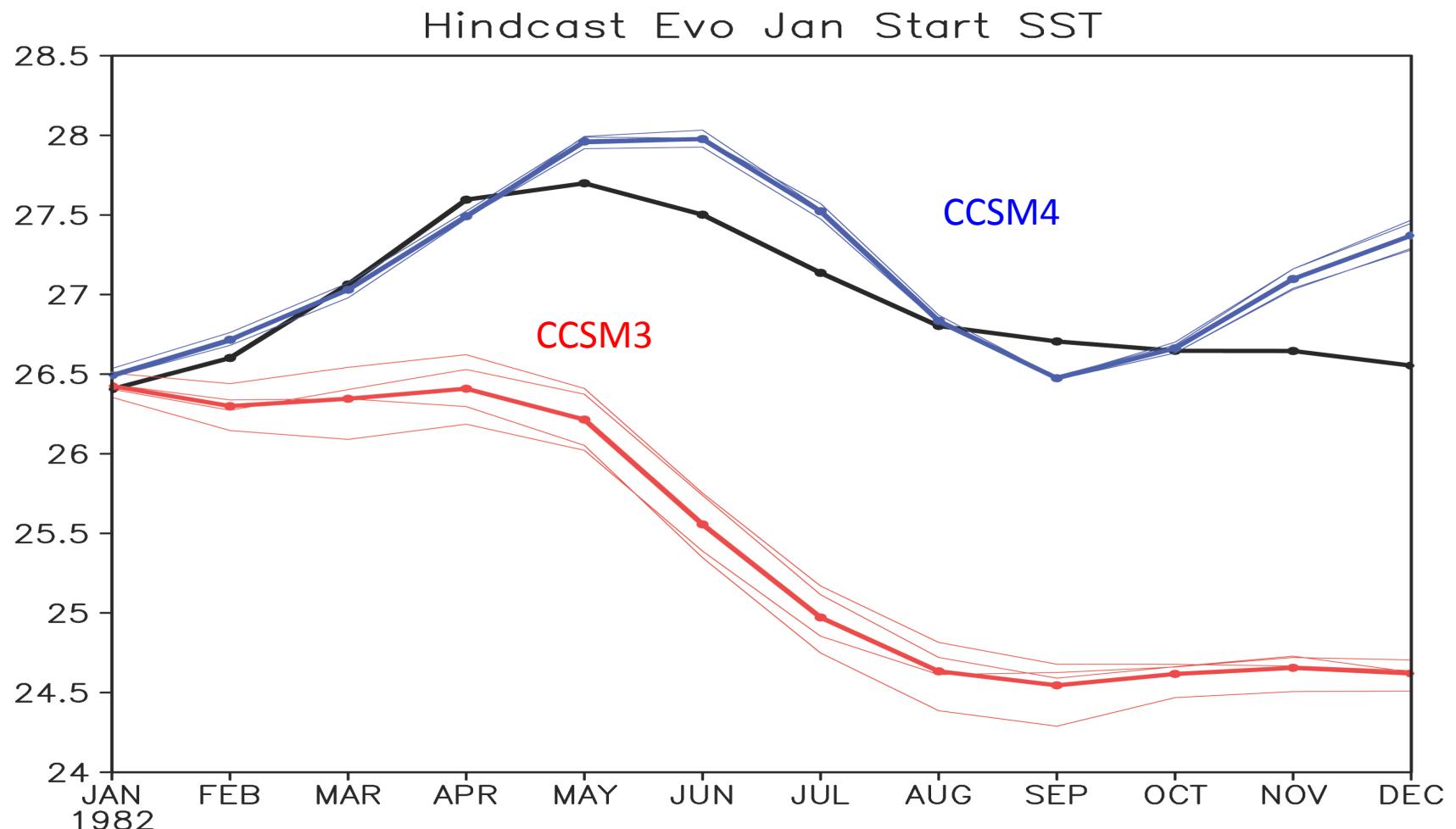
Prate Jan2012Lead 1 Feb2012 CONUS AC



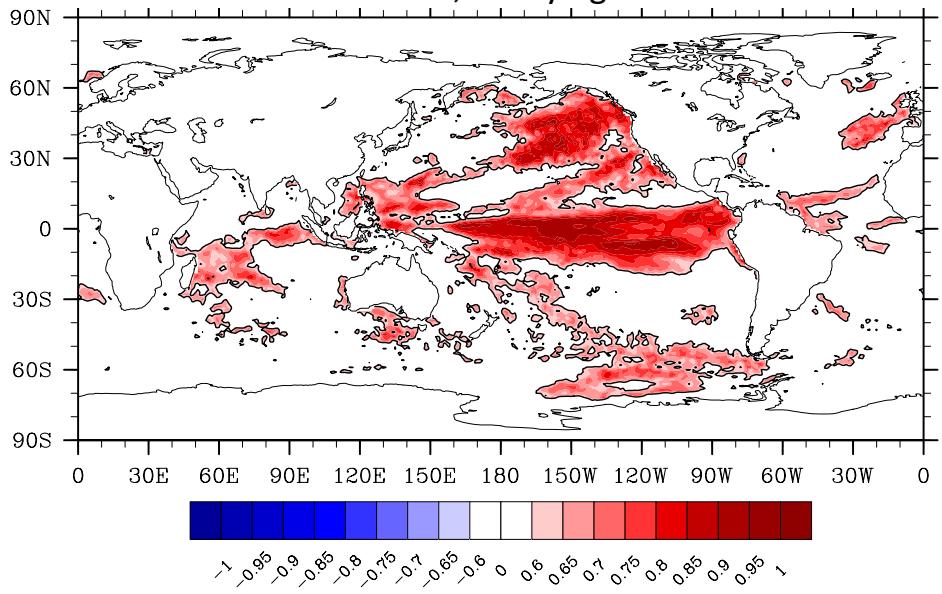
NMME Phase II

- Continue Real-Time SI Activity
- Model Upgrades (e.g., CCSM4)
- Comprehensive Data Server
 - 3 hourly, 6 hourly, 24 hourly, Monthly Means
 - 189 2-d Fields
- Testing and Evaluating High Frequency Initialization Forecast Protocol
 - Not Real-time (1999-2009; Nov. Only)
 - 45 Days (Starts Every 5-days)
 - Burst vs. Every 6 hours

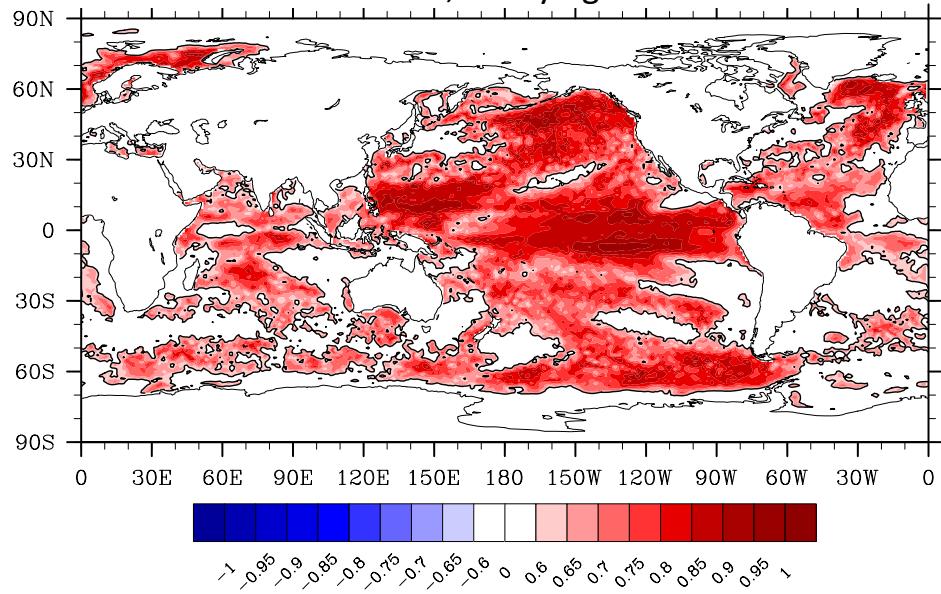
CCSM3 vs. CCSM4



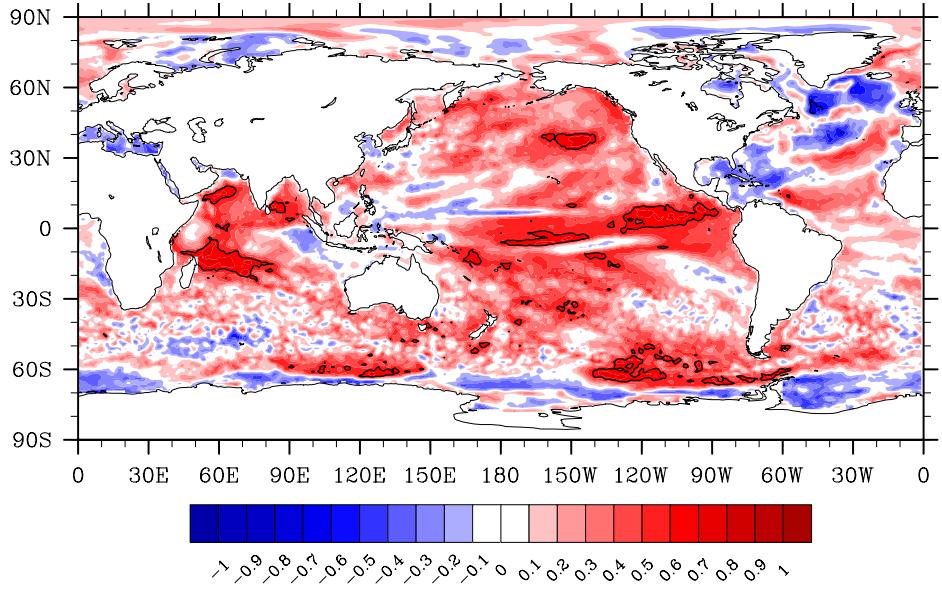
CCSM3 SST Anomaly Correlation
Jan Start, Verifying JFM



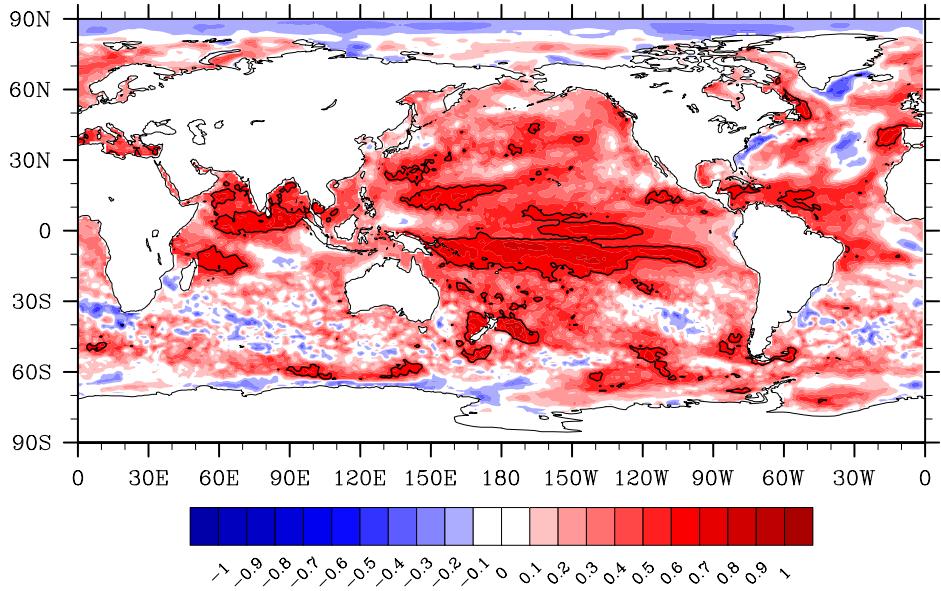
CCSM4 SST Anomaly Correlation
Jan Start, Verifying JFM



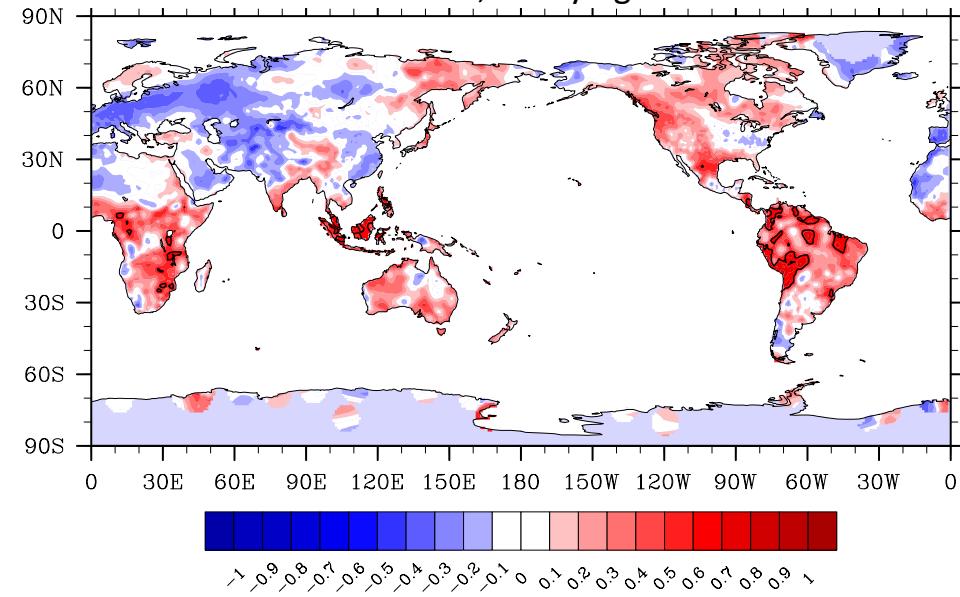
CCSM3 SST Anomaly Correlation
Jan Start, Verifying JJA



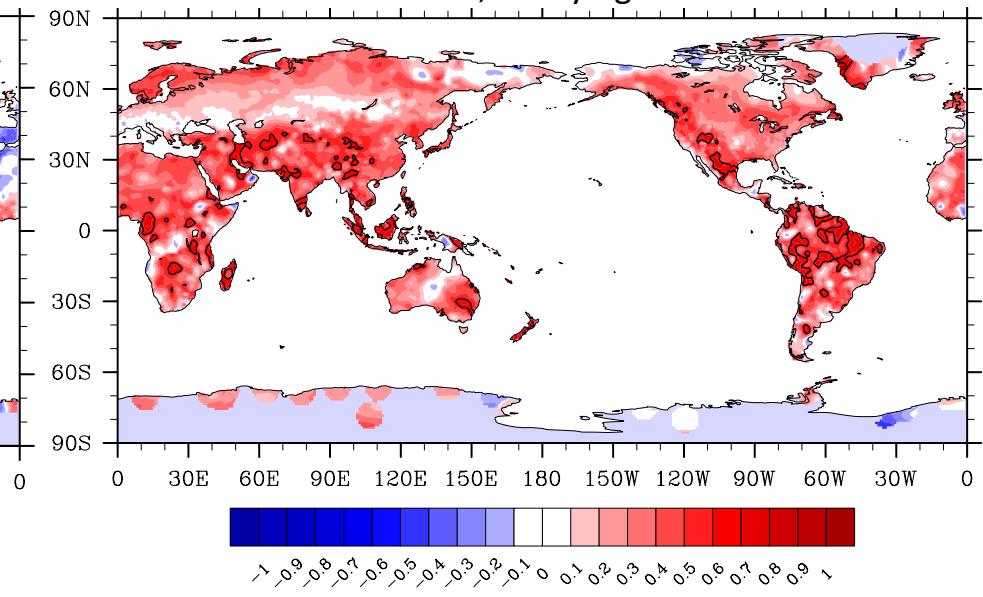
CCSM4 SST Anomaly Correlation
Jan Start, Verifying JJA



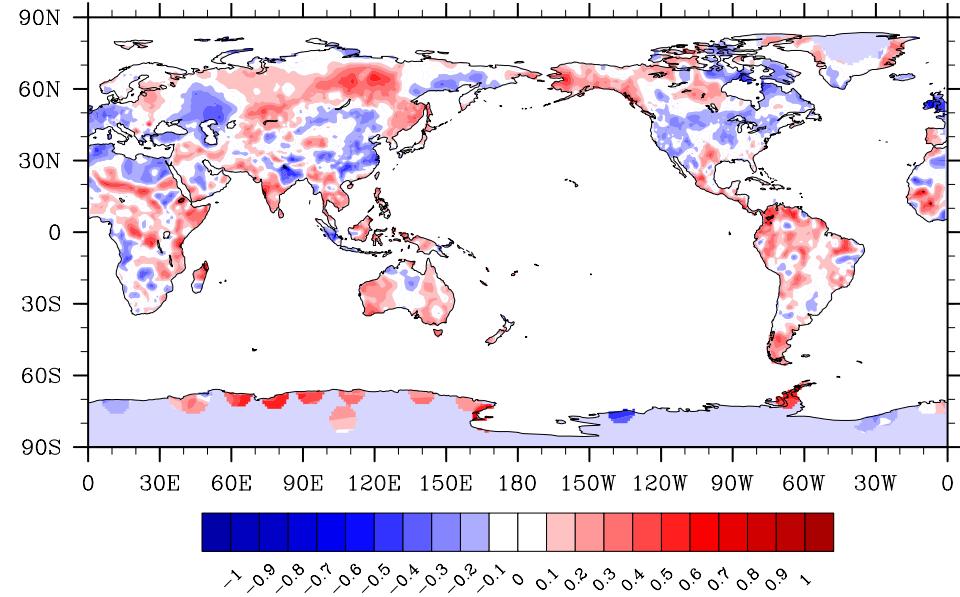
CCSM3 T2m Anomaly Correlation
Jan Start, Verifying JFM



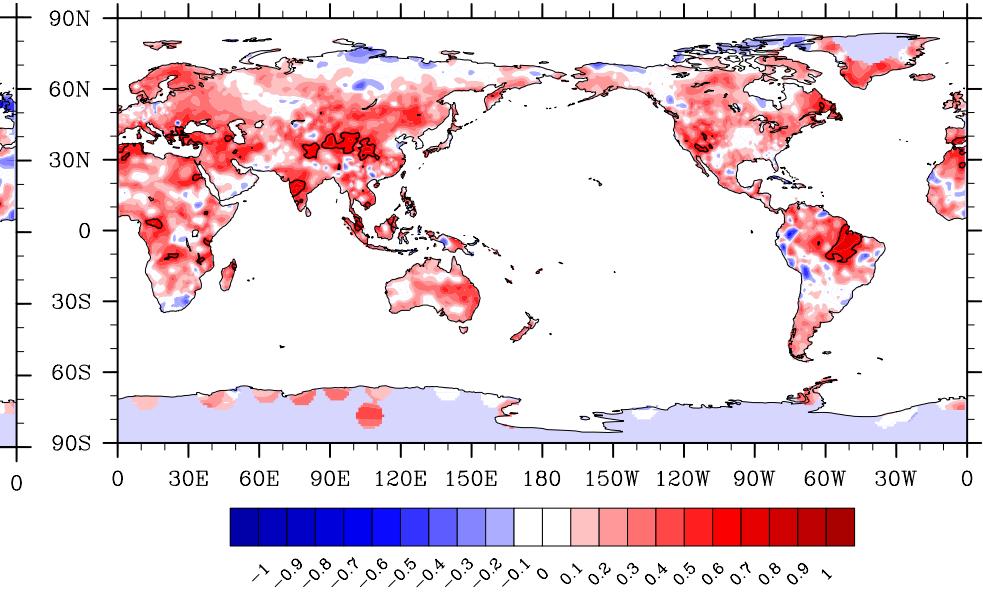
CCSM4 T2m Anomaly Correlation
Jan Start, Verifying JFM



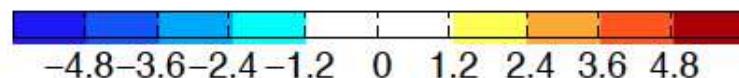
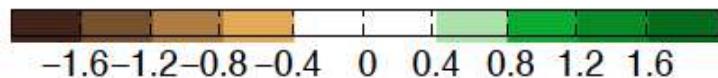
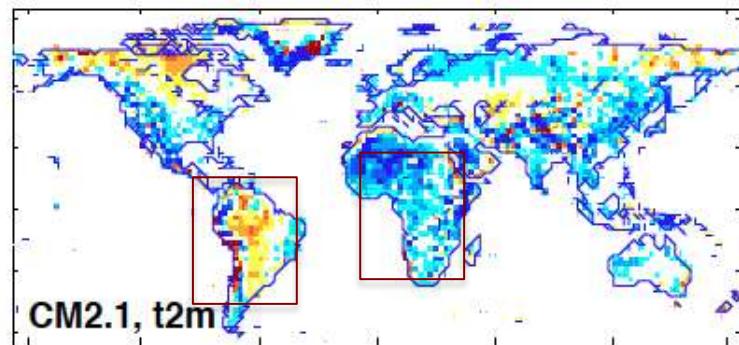
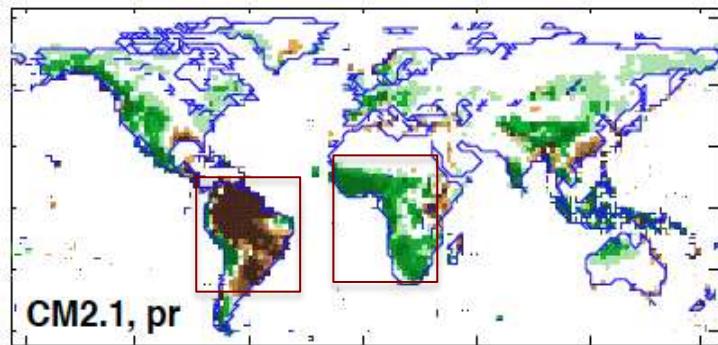
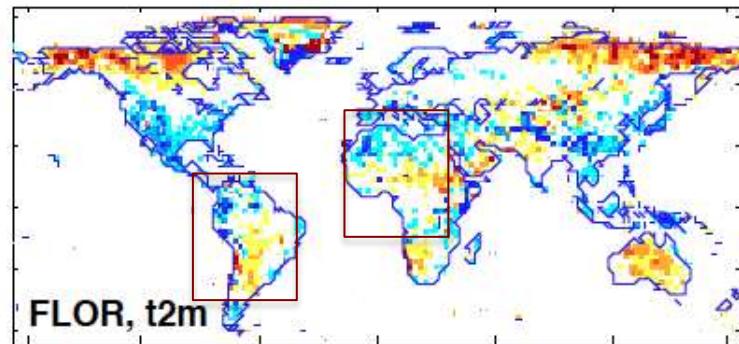
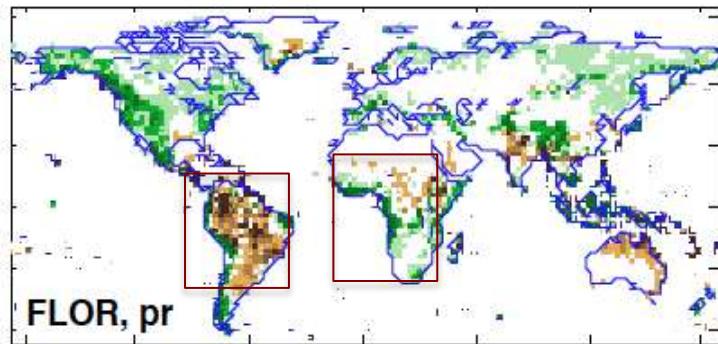
CCSM3 T2m Anomaly Correlation
Jan Start, Verifying JJA



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Jan Start, Verifying JJA

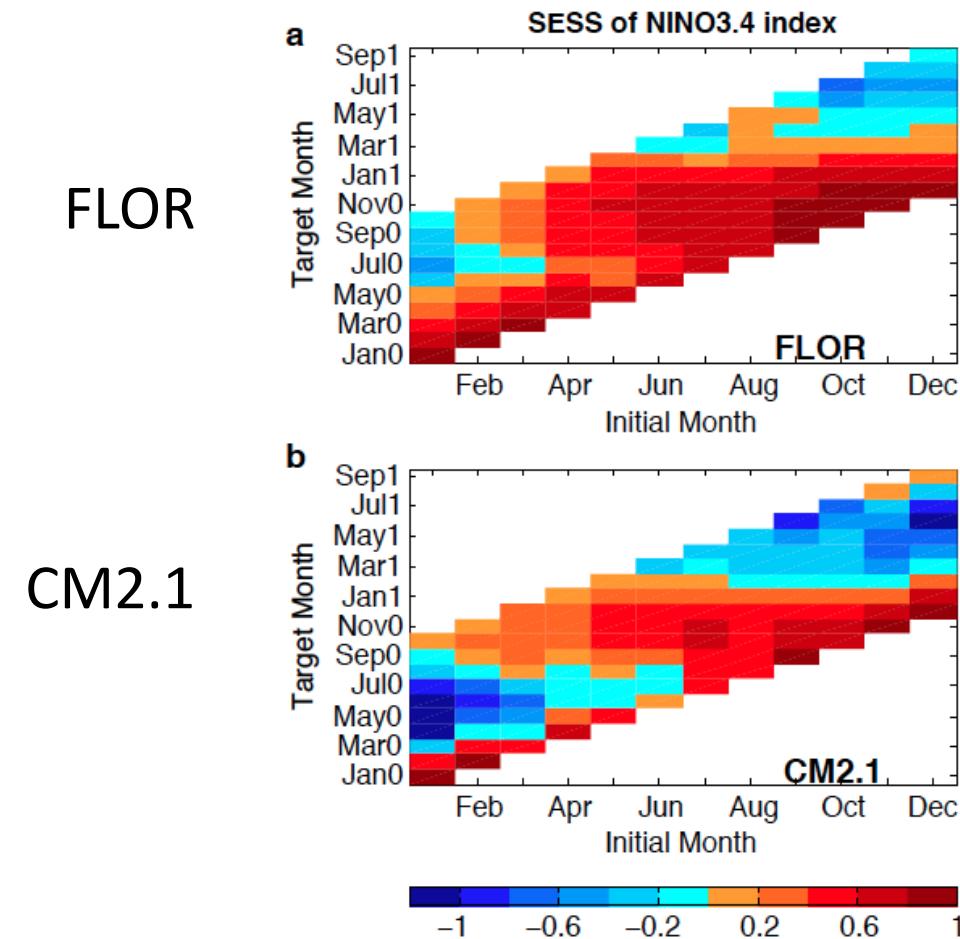


Improved mean pr and t2m over CM2.1



Bias of annual mean precipitation and t2m in FLOR and CM2.1 control simulations.

SESS of NINO3.4 index in FLOR and CM2.1



Squared error skill score (a,b) of NINO3.4 index in FLOR and CM2.1 for each initial month and target month during 1981-2010 (1983-2010) in FLOR (CM2.1).